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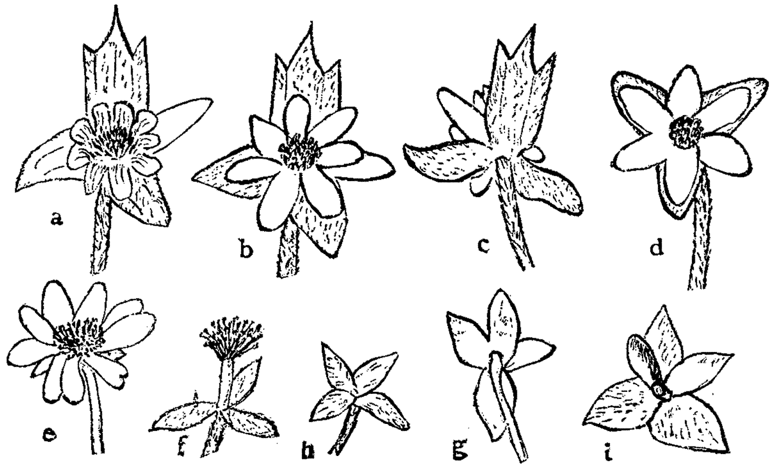
Both Ferdinand Deppe, (1832) and Thomas Nuttall, 1836, had familiar knowledge of the species in their Californian travels about a dozen years before Theodore Hartweg came this way. Nuttall named the species for Deppe, it would appear. Then, some twenty years later, Mr. Bentham in treating of Hartweg's Californian collections, named the plant *R. Californicus*, and this new synonym was forthwith adopted by the American authorities, who thus relegated to obscurity or oblivion the true and rightful name.

Diœcism in Anemone acutiloba, Lawson.

In the *Anemone acutiloba*, Lawson, there is a manifest tendency to be diœcious. A year ago a plant was found, all the flowers of which were strikingly different from those of other plants near by. The dark-blue calyx was much smaller than the involucre, and the stamens were wanting. The pistils were from thirty-five to forty in each blossom, or about double the average number in perfect flowers. Only abortive stamens were found in two of the flowers. The stamens are numerous in normal flowers, and on account of their absence, if for no other reason, the blossoms under consideration appeared different from the ordinary sort. In addition to the absence of the stamens and the small size of the calyx, there was an unexpected development of the involucre. Instead of the ordinary number, there was a fourth bract which, although green, had the size and shape of the sepals. It, however, occupied a position close by the sides of the other bracts, and made up a part of the involucre which, in this *Anemone*, is situated a half inch or more below the flower.

Another deviation noticed in the involucre, was the much greater development of one of the bracts, and the dentate or notched tip which it possessed. The flower under consideration is shown (natural size) at *a* in the engraving. At *b* the same flower is seen with the calyx laid back so as to better indicate its size and the appearance of the centre of the flower with its pistils only. A rear view of the same blossom is given at *c*. In all of these the exaggerated size of one bract is easily seen, as also the manner in which its tip is developed into three quite sharp teeth. It is also not difficult to locate the fourth bract, which is seen to be much smaller than the other three, and in shape like the sepals. There is also the absence of that hirsutness characteristic of all leafy parts of the plant.

The appearance of a pistillate flower without any monstrous developments, is shown at *d*. Here the regularity of parts is well observed. The bracts are of equal size, and are somewhat broader and longer than the six equal-sized sepals situated a short distance above them.



No staminate flowers were found last year; but this spring they came to light and were discovered by a student while examining specimens of the *Hepatica* in class. The stamens are more numerous than in perfect flowers. In ordinary blossoms there are about thirty stamens, while in the staminate flowers there were forty or more. The pollen from these male flowers was found, by measurement, to be of the same size (40-45 microm.) as that of perfect flowers, and to all appearance the same. A staminate flower, natural size, is shown at *e*. It will be observed that the sepals are much longer than the bracts, and shut them from view when looking down upon the flower. A staminate flower with the sepals removed is shown at *f*. The distance between the involucre and the flower is here seen. In older flowers this is much more, and when the plant is in fruit, the separation is still greater.

At *g* is seen a form of the involucre of perfect flowers that is sometimes found. At first sight there are four bracts, but a further inspection shows that two of them are united at the basal end and side. However, the smallest of the three or four, as the case may be, is situated above the others, and bears a strong resemblance in form and texture to the sepals. If this one be an extra bract, it is natural to consider the deeply lobed bract as made up of two. Sometimes the four bracts are all of the same size, and are disposed in the form of a cross, as seen at *h*. The most interesting involucre, morphologically considered, is perhaps the one shown at *i*. In this there are four bracts, three of which are of nearly the same size, and the fourth smaller but green and hairy. This one occupies a place just above the larger and lower three. In the circle of sepals was one, a little larger than the others, one-half of which was green while the balance of the organ was white and petal-like. The green portion of the sepal is shown shaded in the engraving. This organ is fully a third of an inch above the abnomal involucre.

The tendency toward a cleft condition of the bracts of the involucre is not extraordinary when we know that this *Hepatica* is now placed in the same genus with several species where the involucre, although quite remote from the flower, is made up of foliar organs which are often much incised. *Anemone nemorosa* L., and *A. dichotoma*, L., may be mentioned as close confreres in the genus, while on the other side is the old *Thalictrum anemonoides*, Michx., which Spach placed in a new genus, namely, *Anemonella*. The tip of our abnormal bract is more like that of a leaflet of the *Anemonella*, or of a leaflet of *Thalictrum dioicum*, L. The diœcious tendency also points in the same direction.

Each reader is left to draw his own conclusions as to what the outcome in the future centuries may be; whether we shall then have a truly diœcious species in *Anemone acutiloba* or one divested of all traces of a separation of the sexes.

BYRON D. HALSTED.

Ames, Iowa, April 22, 1887.